

## **II. Methane Gas Venting System**

In accordance with 329 IAC 10-20-17, municipal solid waste landfills shall ensure the following:

1. The concentration of methane generated by the facility does not exceed twenty-five percent (25%) of the lower explosive limit for methane in facility structures, excluding gas control leachate collection manholes or recovery system components.
2. The concentration of methane gas does not exceed the lower explosive limit for the gases at the facility property boundary."

In order to comply with the above-listed requirements, some landfills may be required to reduce methane concentration to the allowable levels. This could be achieved by installing a methane gas venting system. The following is an outline of what type of information, at a minimum, should be included if a methane venting system is proposed:

- a. A landfill topographic plot plan with solid waste boundaries clearly delineated. This map shall also depict any enclosed structures located on-site or within close proximity of the landfill. The map shall show the location and ground elevations of the proposed methane venting system.
- b. The type of the methane venting system proposed. There are generally two types of venting systems currently used. These are a perimeter trench filled with gravel and a series of wells installed into the solid waste. The bottom section of a methane well should have a 4 - to 6-inch diameter perforated pipe packed with gravel.
- c. Indication of a depth and bottom elevation of the venting system. If the perimeter trench is proposed then the trench depth should be approximately two (2) feet lower than the depth of waste placement. If the wells are installed then the total well depth should not exceed 75% of the landfill depth in this location.
- d. Procedures for installation of the methane venting system, including provisions for the disposal of excavated waste, covering exposed waste and reestablishing final cover and vegetation on the disturbed portions of the site. The construction of the methane venting system should be implemented in an environmentally safe manner with particular consideration given to the fire prevention and control procedure.

- e. Depth of solid waste in the vicinity of the proposed methane venting system.
- f. Cross-sectional drawings of the proposed methane venting system including information on materials used during its construction.
- g. The following additional information should be provided if the well venting system is proposed:
  - 1. Cross-sectional drawings of proposed well design and construction, including information on materials, screen size, length and elevation of screen intervals. It is recommended to use 4-to 6-inch diameter PVC pipe with a screen spacings of approximately 8-to 12-inches between a 1/2- to 1-inch diameter holes. Sand or gravel pack should be utilized around the screen. The wells should be grouted with cement or bentonite.
  - 2. Estimate the number of wells and the approximate distance between wells. A radius of influence of the proposed venting points should be calculated to ensure proper well placement and maximum efficiency of the system.

This document may be modified periodically to reflect changes in methodology. If you have any questions regarding this guidance, please contact the Solid Waste Engineering staff of this office for assistance.